

Work Order ID 58589

May 12, 2010 8:52:35 AM



Page 1

Item ID: D212-664-101

Accept



Setup Start



Revision ID:

Item Name: Crosstube Fwd

Stop



Start Date: 12/05/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 31/05/2010 Req'd Qty: 1.00



Customer:

Reference:

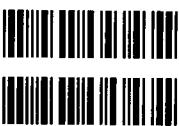
Approvals: Process Plan: *RF*

Date: *10-5-12*

Tooling:

Date:

Run Start



QC: _____

Date: _____

SPC (Y/N):

Date:

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr	Revision Nbr
D212-664-141	Rev D

100



DC

Document Control

DOCUMENT CONTROL

Memo

Photocopy bluefile and create labels as per PPP D212-664-101 CHG003

S 10/05/13

RF for BG 10/05/13

110



Packaging

Packaging

Pick Kit
Packaging

0.00

Memo

0.00

1X Q MB 10-05-13

120



CNC Bend 2

CNC Alpha 160 Bender

BENDING MACHINE - CROSSTUBES

0.00

Memo

0.00

Bend tube as per Dwg D212-664-141 using CNC bender program 212-fw and Folio D212-664-101

1X Q MB 10-05-13

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

**Sequence ID/
Work Center ID**

130

**Operation
Description**

QC15- Crosstube Dimensional Check

Set Up/
Run Hours

0.00

Draw
Number

Rev.

Plan
Code

Qty

Accept
QtyReject
QtyReject
NumberReject
NumberInsp.
Stamp

QC

Quality Control

Memo

0.00

5/10/2010

140



Crossstubes

Crosstubes

0.00

Memo

0.00

1-Drill pilot holes in tube as per Dwg D212-664-141 using drill Jig DT8548 & DT8549, using drill table DT8577, set-up towers in hole #7 as per QSI 10

2-Ream hole to finish size in tube as per Dwg D212-664-141 using drill Jig DT8548 & DT8549. Check dimensions between holes, both sides on both cuffs, to ensure alignment with saddle holes.

3-Scribe part # and batch # using vibrating stylus as per Dwg D212-664-141

4-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D212-664-141

MP 10-06-18
 10-06-18
 AWM 10-3-20

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center ID

150



HandFXtube

Operation
Description

Crosstubes Chemical Conversion

Set Up/
Run Hours

0.00

Draw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberReject
Stamp

Always

10-3-19

Hand Finishing Crosstubes

Memo

0.00

Chemical Conversion Coat within 24 hours of bending and drilling

160



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

S10105109

X

170



Outsource2

Outsource process - NDT per QSI038 4.1

0.00

Outsource process - NDT

Memo

0.00

Liquid Penetrant Inspection as per QSI 038
Issue P/O: 11947
LPI as per ASTM 1417 Level 2
Attach copy of NDT results to work order

CL 10/5/20 0

W/O:		WORK ORDER CHANGES					
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Cust Item ID:

Required Date: 31/05/2010 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center ID

180



Packaging

Packaging

Operation
DescriptionReceive & Inspect for Damage & Mat'l Certs
PackagingSet Up/
Run Hours

0.00

Draw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

190



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

Inspect for damage & ensure results are as per Dwg D212-664-141

*12/05/2010 (1)**10 05 25 (1)*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Run

Start

**QC:****Date:****SPC (Y/N):****Date:**

Stop

**Sequence ID/
Work Center ID**

200



SprayPaint

**Operation
Description**

Spray Painting per QSI005 4.2

SprayPaint

**Set Up/
Run Hours**

0.00

**Draw
Number**Draw
Rev.**Plan
Code****Accept
Qty****Reject
Qty****Reject
Number****Insp.
Stamp**

Spray Painting

Memo

0.00

1-Prime inside and outside crosstube as per QSI 005 4.2
2-Paint outside crosstube with White Imroi as per QSI 005 4.2**PRIME:**Start Time: 10:00Finish Time: 11:30**PAINT:**Start Time: 3:30Finish Time: 4:30

210



QC

QC14- Inspect Spray Paint

0.00

Memo

0.00

Quality Control

Then, Wrap in plastic bag to protect from scratches

ZT 10-05-26

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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NOTE: Date & initial all entries

Work Order ID 58589

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Item ID: D212-664-101

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Revision ID:

Item Name: Crosstube Fwd

Stop



Start Date: 12/05/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 31/05/2010 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start



QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

Sequence ID/
Work Center ID

220



Crosstubes

Operation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

0.00

Crosstubes

0.00

W 10 05 26 (1)

Crosstubes

Memo

1- Lightly scuff the bonded area using a 320 grit sand paper and clean the area with 41058 wash 'n' wipe
 2-Install supports with magnobond as per QSI 015 Adhere for for 12 Hrs
 A/R 6398 Magnobond Batch: 114021 exp. 01/2011
 Torque: ml 10.05.27

230



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

S10105127

(4)

240



Packaging

Packaging

Pick Kit

0.00

Memo

0.00

10-5-28 sf

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Work Order ID 58589

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Item ID: D212-664-101

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Revision ID:

Item Name: Crosstube Fwd

Stop



Start Date: 12/05/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 31/05/2010 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start



QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

Sequence ID/
Work Center ID

250



QC

Quality Control

Operation
Description

QC4- 100% Inspect kits for completeness

Set Up/
Run Hours

0.00

Draw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberReject
NumberInsp.
Stamp

81010531

260



Packaging

Packaging

Packaging

Memo

Identify and pack for shipping as per PPP D212-664-101

0.00

0.00

0.00

R&V E

10-5-318

270



QC

Quality Control

QC21- Final Inspection - Work Order Release

0.00

Memo

0.00

10/06/01 JJ

R10-5-31
(1)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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NOTE: Date & initial all entries

Picklist Print

May 12, 2010 8:52:40 AM

Page 1

Work Order ID: 58589



Parent Item: D212-664-101



Parent Item Name: Crosstube Fwd

Start Date: 12/05/2010

Required Date: 31/05/2010

Comments: IPP Rev:E 04.02.16 □Reformat □KJ/DS

Start Qty: 1.00

IPP Rev:F 06-03-29 Remove Coments on Pick List JLM
IPP Rev:G 07-04-30 As per Rev C JLM

Required Qty: 1.00

Component Item ID/ D212-664-101TRN	Replacement	Mfg/ Manufactured	Bin No	Primary	Last	Route 110	Unit of Each	Qty on 2.0000	Qty per Kit 1	Qty	Date	Status
											MB 10-05-13	

Crosstube Turning Detail

Location	Loc Qty	Loc Code
LG	2	
58195	1	
58196	1	

D3595-063-450



Manufactured

No

230

Each

58.5790

4



RUBBER CUSHION

Location	Loc Qty	Loc Code
LG	58.57897368	
53775	30.5789737	
58161	28	

MS21920-25



Purchased

No

220

Each

73.0000

4



Clamp(per MIL-DTL-8783C)

Location	Loc Qty	Loc Code
ST451	73	
113281	25	
113282	22	
113744	1	
114141	25	

M/ 10.05.26

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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NOTE: Date & initial all entries

Picklist Print

May 12, 2010 8:52:40 AM

Page 2

Work Order ID: 58589



Parent Item: D212-664-101



Parent Item Name: Crosstube Fwd

Start Date: 12/05/2010

Required Date: 31/05/2010

Comments: IPP Rev:E 04.02.16 Reformat KJ/DS

Start Qty: 1.00

IPP Rev:F 06-03-29 Remove Coments on Pick List JLM
IPP Rev:G 07-04-30 As per Rev C JLM

Required Qty: 1.00

Component Item ID/ D2893-1	Replacement	Mfg/ Manufactured	Bin No	Primary	Last	Route 220	Unit of Each	Qty on 51.0000	Qty per Kit 2	Qty	Date	Status

2.75 Support

Location	Loc Qty	Loc Code
LG	51	
53125	9	
53340	2	
53774	20	
56354	20	

M 10 05 26

D3428-1



Placard

Manufactured No

240 Each 2.0000

1

58754 10-5-28

AN6-35A



BOLT

Purchased No

240 Each 58.0000

4

10-5-28

AN6-36A



Bolt

Purchased No

240 Each 75.0000

4

10-5-28

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
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Picklist Print

May 12, 2010 8:52:40 AM

Page 3

Work Order ID: 58589



Parent Item: D212-664-101



Parent Item Name: Crosstube Fwd

Start Date: 12/05/2010

Required Date: 31/05/2010

Comments: IPP Rev:E 04.02.16 Reformat KJ/DS

Start Qty: 1.00

Required Qty: 1.00

IPP Rev:F 06-03-29 Remove Coments on Pick List JLM
IPP Rev:G 07-04-30 As per Rev C JLM

Component Item ID/ MS21042L6	Replacement	Mfg/ Purchased	Bin No	Primary	Last	Route 240	Unit of Each	Qty on 369.0000	Qty per Kit 6	Qty	Date	Status
											160-5-28 SF	

Nut

Location

Location	Loc Qty	Loc Code
ST300	369	
111578	169	
114495	200	

AN960JD616 NAS11490063



Purchased No

Washer

18

Location	Loc Qty	Loc Code	18
ST300	369		

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

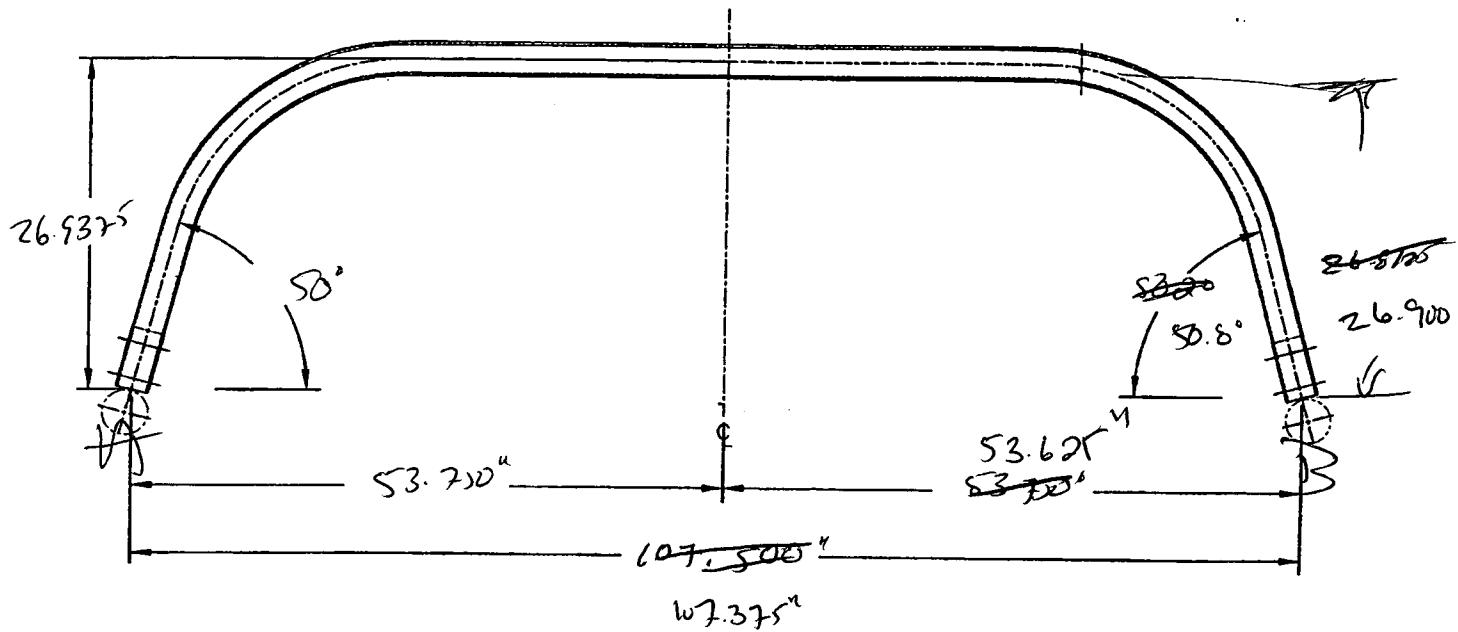
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NOTE: Date & initial all entries

DART AEROSPACE LTD	Work Order:	58589
Description: Crosstube High Fwd (205/212/412)	Part Number:	D212-664-101
Inspection Dwg: D212-664-141	Rev: D	Page 1 of 1

Required Dimension	Min	Max
Height	26.79	27.05
1/2 Span	53.59	53.85
Angle	49	52
Total Span	107.18	107.7



Comments

QC15 Inspection	<i>S</i>
Date	10/15/17

752
625
325

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM	
B	07.05.31	Dimensions updated per Dwg Rev C	KJ/JM	
C	10.04.01	Dwg Rev updated	KJ	<i>J</i>

W/O:		WORK ORDER CHANGES					
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NOTE: Date & initial all entries

8 7 6 5 4 3 2 1

Item	Qty -141	Qty -141B	Part Number	Description
1	X		D212-664-141	CROSSTUBE ASSEMBLY (205/212/412 HIGH FWD)
2		X	D212-664-141B	CROSSTUBE ASSEMBLY (214 HIGH FWD)
3	1	1	D6005-128	CROSSTUBE
4	2	2	D2893-1	SUPPORT
5	4	4	D3595-063-450	RUBBER CUSHION
6	4	4	MS21920-25	CLAMP (OR MS21920-26)
7	A/R	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)

GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6005-128
FINISHED LENGTH = 126.514±0.020
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER "D212-664-XXX" AND BATCH NUMBER ON INSIDE OF CUFF
USING VIBRATING STYLUS
- 7) WEIGHT: D212-664-141 = 33.6 lbs (PER IIN-D212-664)
D212-664-141B = 33.6 lbs (PER IIN-D212-664)
- 8) PART IS SYMMETRIC ABOUT CENTERLINE.
- 9) RUN CUTTER OFF PART. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.
- 10) BEND PROGRESSIVELY WITH A MINIMUM OF 3 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 12) INSTALL D2893-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 TO THE SURFACE OF D2893-1 THAT WILL BE IN CONTACT WITH THE CROSSTUBE PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 13) INSTALL MS21920-25 CLAMPS (OR -26) WITH D3595-063-450 RUBBER CUSHIONS TO SECURE THE D2893-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE OPPOSITE OF CROSSTUBE SUPPORT.
- 14) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

SHOP COPY
RETURN TO:
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT,
WITHOUT NOTICE
WORK ORDER
NO. 58089

BS10-5-12

RELEASED
2009-10-29
NY

D	REFORMAT/REVISE GENERAL NOTES/PART LIST; REORGANIZED VIEWS AND REFORMATTED DRAWING TO CURRENT STANDARDS; ADD -141B (ZN B4-2, D4-2); REMOVED REF & ADD TOLERANCES (ZN B4-3, C6-3, C8-3 & B6-3); RELOCATED FLAG #6 PER PAR 08-046 (ZN A5-3); MOVED TURNING DETAIL & UPDATED TOLERANCE TO SHEET 4	RF	09.09.30
C	REMOVE -851 ABRASION STRIP; ADD MAGNOBOND 6398, CUSHION, REVERSE CLAMPS	PH	07.03.08
B	ADD HOLES FOR COMPATABILITY WITH BHT/AA SKIDTUBES	PH	05.02.04
A	NEW ISSUE	PH	00.12.12
REV.	DESCRIPTION	BY	DATE
DESIGN	PH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	Q	DRAWING NO.	REV. D
MFG. APPR.	DS	D212-664-141	SHEET 1 OF 4
APPROVED	NO	TITLE	SCALE
DE APPR.	NO	XTUBE ASS'Y (205/212/412 HI FWD)	NTS
DATE	09.09.30	COPYRIGHT © 2000 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR CLEARED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

8 7 6 5 4 3 2 1

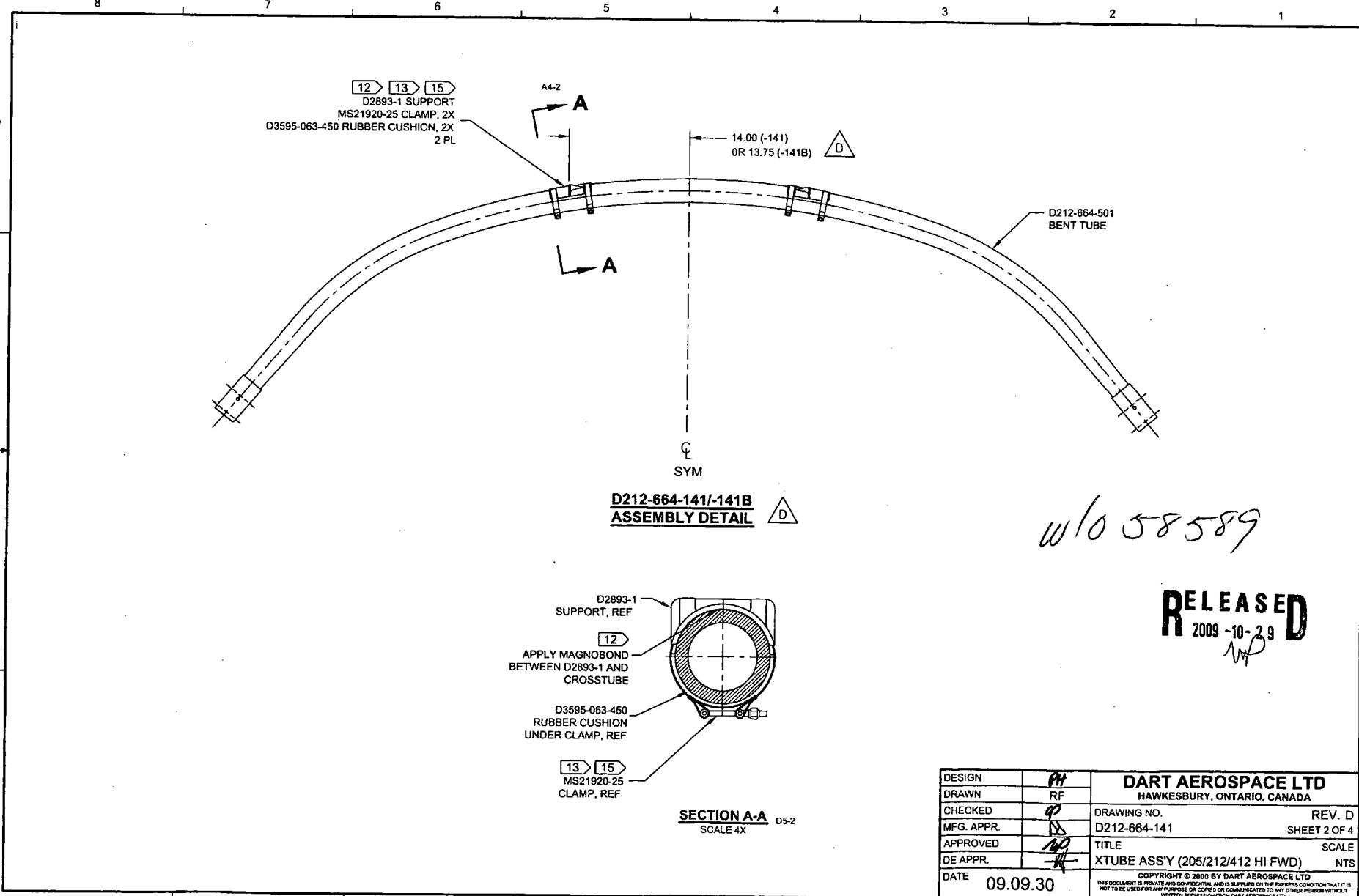
1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



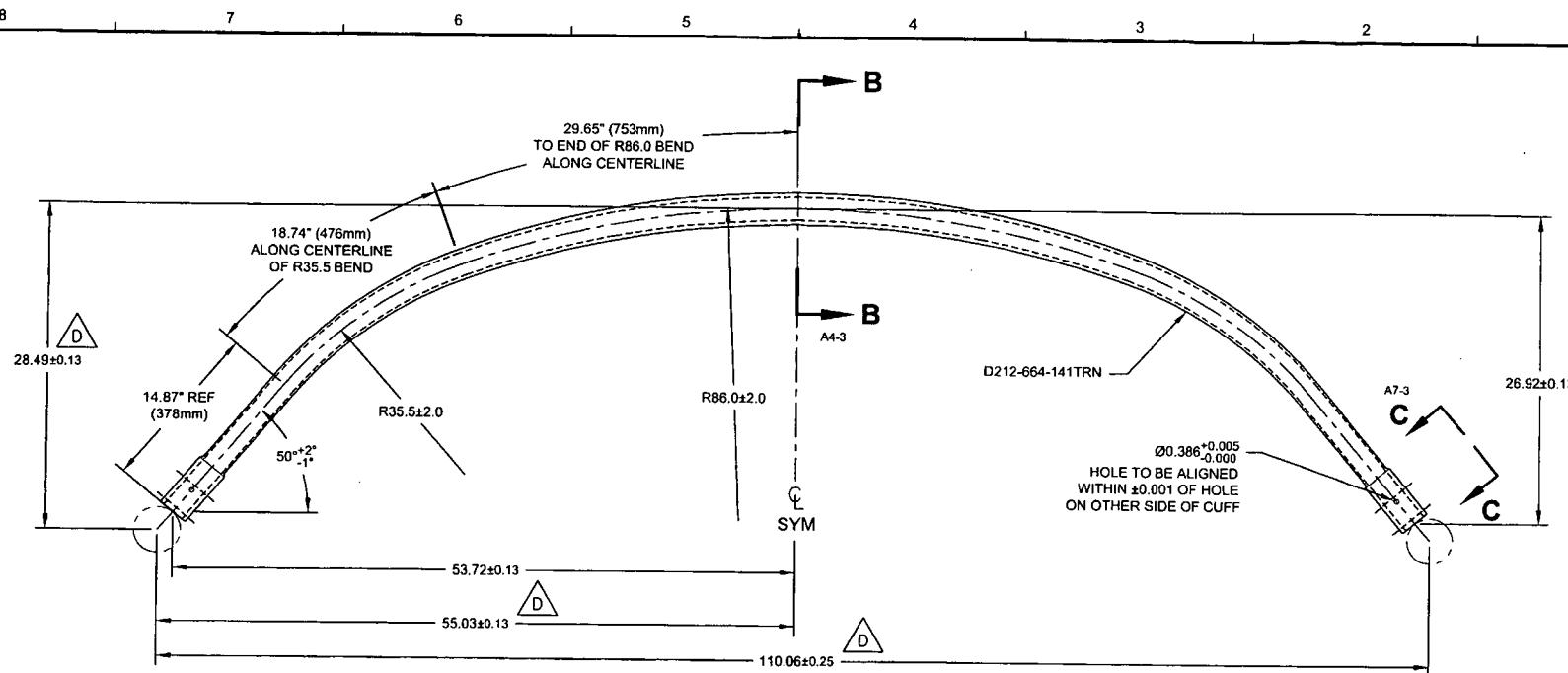
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

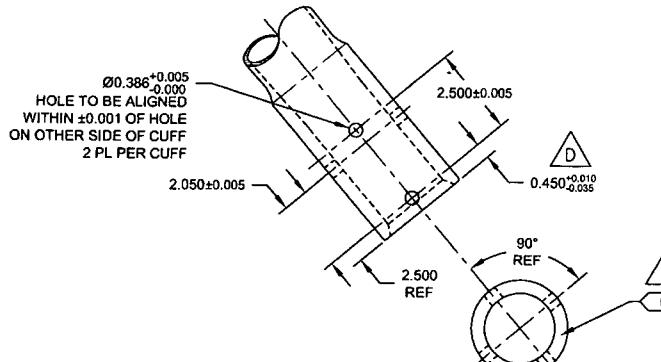
NOTE: Date & initial all entries



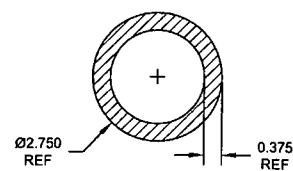
D212-664-501
BENDING AND DRILLING DETAIL 10 → D

w/o 58589

RELEASED
2009-10-29
M



VIEW C-C: CUFF DETAIL C2.3
SCALE 3X



SECTION B-B C4.3
SCALE 4X

DESIGN	RF	DART AEROSPACE LTD	
DRAWN	RF	HAWKSLEY, ONTARIO, CANADA	
CHECKED	RF	DRAWING NO.	
MFG. APPR.	RF	D212-664-141	
APPROVED	RF	REV. D	
DE APPR.	RF	SHEET 3 OF 4	
DATE	09.09.30	TITLE	
		XTUBE ASSY (205/212/412 HI FWD)	
		NTS	

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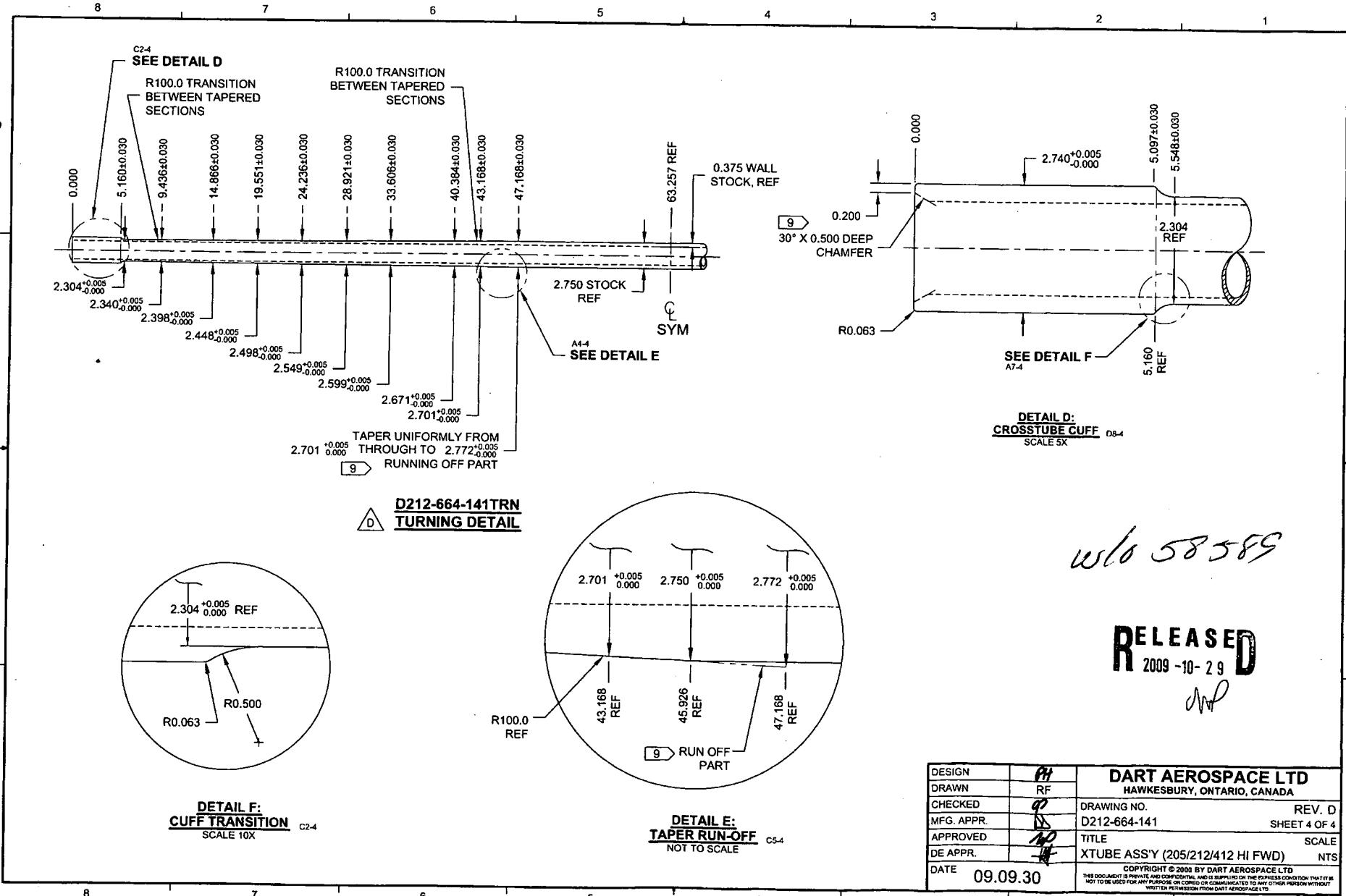
W/O:		WORK ORDER CHANGES					
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



DESIGN	<i>PH</i>	DART AEROSPACE LTD
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA
CHECKED	<i>PH</i>	DRAWING NO.
MFG. APPR.	<i>PH</i>	D212-664-141
APPROVED	<i>PH</i>	REV. D
DE APPR.	<i>PH</i>	SHEET 4 OF 4
DATE	09.09.30	SCALE
		XTUBE ASS'Y (205/212/412 HI FWD) NTS

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



LIQUID PENETRANT TEST REPORT

P- 15324

CLIENT DART AEROSPACE DATE MAY 20-2010 PAGE 1 OF 1
 ATTENTION LINDA/CHANTE TIME AM PM
 ADDRESS 1270 ABDOLDEEN ST. ACUREN JOB NO. 188-10-0758
HAWKESBURY ONT K0H 1K7 PO/WO NO. 11847 -
 PROJECT F. P. I. ON CLOSSTUBES WORK LOCATION SHOP
 ITEM(S) EXAMINED 4 Pcs ACCEPTANCE STD. ASTM 1417 REV./DATE 2007

JOB DESCRIPTION PROCEDURE NO. LT 0002 REV./DATE TECHNIQUE NO. LT TECH 2 REV./DATE
 PART NO. MATERIAL ALUMINUM THICKNESS —
 SCOPE WET FLUORESCENT LIQUID PENETRANT INSPECTION,
CARRIED OUT 100% EXTERNAL

TEST DETAILS

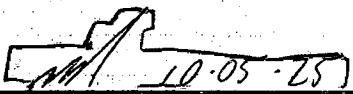
METHOD <input checked="" type="checkbox"/> FLUORESCENT <input type="checkbox"/> VISIBLE	<input checked="" type="checkbox"/> WATER WASH <input type="checkbox"/> SOLVENT REMOVABLE <input type="checkbox"/> POST EMULSIFIED
FAMILY BRAND <u>MAGNAFLUX</u>	BLACK LIGHT S/N <u>16459</u> <input type="checkbox"/> OUTPUT > 1000 μ W/cm ² <input type="checkbox"/> AMBIENT < 2 fc
PENETRANT <u>2L607</u> MINIMUM DWELL TIME <u>45s</u> MIN.	LIGHTING EQUIP. <input type="checkbox"/> FLASHLIGHT <input type="checkbox"/> TROUBLELIGHT <input type="checkbox"/> OUTPUT > 100 fc @ SURFACE
PENETRANT REMOVER <u>H2O</u> MINIMUM DRY TIME <u>>10</u> MIN.	OTHER <u>LABINO</u>
DEVELOPER <u>SKD 52</u> MINIMUM DWELL TIME <u>10</u> MIN.	LIGHT METER S/N <u>1098866</u> CAL DUE DATE <u>Oct 1-19-2010</u>
DEVELOPER TYPE <input checked="" type="checkbox"/> NON AQUEOUS <input type="checkbox"/> AQUEOUS <input type="checkbox"/> DRY	

TEST SURFACE

SURFACE CONDITION AS GROUND AS WELDED MACHINED SHOT BLASTED CLEAN BARE METAL
 SURFACE TEMPERATURE < -4°C/ 20°F -4°C/ 20°F TO 10°C/50°F 10°C/50°F TO 52°C/125°F > 52°C/125°F

RESULTS- METRIC IMPERIAL

1 W.O. 58366 - CLOSTUBE ✓
1 W.O. 58589 - CLOSTUBE ✓
 1 W.O. 58590 - CLOSTUBE ✓
 1 W.O. 58365 - CLOSTUBE ✓



Scope of Services

The agreement of Acuren Group Inc. to perform services extends only to those services provided for in writing. Under no circumstances shall such services extend beyond the performance of the requested services. It is expressly understood that all descriptions, comments and expressions of opinion reflect the opinions or observations of Acuren Group Inc. based on information and assumptions supplied by the owner/operator and are not intended nor can they be construed as representations or warranties. Acuren Group Inc. is not assuming any responsibilities of the owner/operator and the owner/operator retains complete responsibility for the engineering, manufacture, repair and use decisions as a result of the data or other information provided by Acuren Group Inc. In no event shall Acuren Group Inc.'s liability in respect of the services referred to herein exceed the amount paid for such services.

Standard of Care

In performing the services provided, Acuren Group Inc. uses the degree, care and skill ordinarily exercised under similar circumstances by others performing such services in the same or similar locality. No other warranty, expressed or implied, is made or intended by Acuren Group Inc.

SIGNATURES

CLIENT REPRESENTATIVE <u>Jason Vincent</u> PRINT <u>PRINT</u>	<u>John Miller</u> SIGNATURE	DTR # <u>E-27410</u>
TECHNICIAN (SIGNATURE): <u>Mike Johnston</u>		REPORT REVIEWED BY:
NAME (PRINT): <u>Mike Johnston</u>		NAME <u> </u> INITIALS <u> </u>
1 ST TECHNICIAN <u> </u>	2 ND TECHNICIAN <u> </u>	
CGSB LEVEL <u>II</u> SNT LEVEL <u> </u>	CGSB LEVEL <u> </u> SNT LEVEL <u> </u>	
CGSB REG. NO. <u>6606</u>	CGSB REG. NO. <u> </u>	

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